

Amendments to the Claims:

Please cancel claims 1 through 12, and 32 through 68, without prejudice to the filing of one or more divisional applications including same. In addition, please cancel claim 15 and claim 22.

Claims 13, 14, 16-21, 23 through 31 have been amended herein. Claims 69 through 80 have been added.

Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of the claims in the application.

Listing of Claims:

Claims 1-12 (Canceled).

13. (Currently Amended) A method of forming ~~at least one~~ conductive traces ~~trace on~~ a ~~within an pipeline interior surface of a pipe,~~ comprising:
~~disposing a movable spray gun within an interior of a pipe;~~
~~generating a reduced air pressure zone proximate the spray gun wherein the reduced air pressure zone is movable with the spray gun;~~
~~spraying, via the movable spray gun, a conductive material toward an interior surface of the pipe while moving the movable spray gun in relation thereto and generating the reduced air pressure zone proximate the spray gun to form at least one conductive trace~~ ~~depositing and consolidating a substantially continuous elongated conductive layer of a conductive material upon an interior surface of a pipe to form a conductive trace.~~

14. (Currently Amended) The method according to claim 13, further comprising ~~spraying, via the movable spray gun, an insulative material toward an interior surface of the pipe~~

~~while moving the movable spray gun in relation thereto and generating the reduced air pressure zone proximate the spray gun to form depositing and consolidating an insulating layer of an insulating material upon an the interior surface of a the pipe prior to depositing spraying said the conductive layer material and then depositing said conductive layer over said insulating layer.~~

15. (Cancelled)

16. (Currently Amended) The method according to claim ~~15~~14, wherein spraying the insulating material comprises:

~~mounting the movable spray gun placing a spray gun configured to spray said insulating material on to an extension arm; and~~
inserting said the extension arm at least partially into said the interior of the pipe area; and
operating said spray gun to spray said insulating material.

17. (Currently Amended) The method according to claim 16, further comprising ~~wherein providing generating the a volume zone of reduced air pressure adjacent the spray gun said extension arm to draw any overspray of said insulating material from said interior area comprises drawing overspray of the insulating material in a direction generally opposite to the direction of spraying.~~

18. (Currently Amended) The method according to claim ~~17~~16, wherein providing ~~generating said the volume zone of reduced air pressure adjacent said the extension arms spray gun comprises disposing transporting overspray through the extension arm a reduced pressure zone proximate said spray gun.~~

19. (Currently Amended) The method according to claim 16, wherein placing ~~providing a spray gun comprises placing providing a thermal spray gun.~~

20. (Currently Amended) The method according to claim 19, further comprising

cooling said~~the~~ thermal spray gun.

21. (Currently Amended) The method according to claim ~~19~~²⁰, further comprising cooling said~~the~~ extension arm separately from said~~the~~ thermal spray gun.

22. (Cancelled)

23. (Currently Amended) The method according to claim ~~22~~¹³, wherein spraying said~~the~~ conductive material comprises:

~~mounting the movable spray gun~~ attaching a spray gun configured to spray said conductive material on an extension arm; and

inserting said~~the~~ extension arm at least partially into said~~the~~ interior area~~of the pipe~~; and operating said spray gun to spray said conductive material.

24. (Currently Amended) The method according to claim 23, further comprising~~wherein generating~~ providing an area of reduced air pressure adjacent said~~the~~ extension arm~~spray gun comprises to draw any overspray of said conductive material from said interior area drawing overspray of the conductive material in a direction generally opposite to the direction of spraying.~~

25. (Currently Amended) The method according to claim 24, wherein providing~~generating~~ said~~the~~ volume zone of reduced air pressure adjacent said~~the~~ extension arm~~spray gun comprises transporting overspray through the extension arm~~ disposing a reduced air pressure zone proximate said spray gun.

26. (Currently Amended) The method according to claim 23, wherein attaching ~~providing~~ a spray gun comprises attaching~~providing~~ a thermal spray gun.

27. (Currently Amended) The method according to claim 26, further comprising

cooling ~~said~~the thermal spray gun.

28. (Currently Amended) The method according to claim 27, further comprising cooling ~~said~~the extension arm separately from ~~said~~the thermal spray gun.

29. (Currently Amended) The method according to claim 13, further comprising flushing ~~said~~the interior ~~area of the pipe~~ with cooling air.

30. (Currently Amended) The method according to claim 29, further comprising directing ~~said~~the cooling air into ~~said~~the interior ~~area of the pipe~~ from at least one cooling air outlet disposed on ~~said~~the extension arm.

31. (Currently Amended) The method according to claim 29, further comprising directing ~~said~~the cooling air into ~~said~~the interior ~~area of the pipe~~ from an ~~opening open end of~~ into ~~said~~the pipe.

Claims 32-68 (Canceled)

69. (New) The method according to claim 16, further comprising rotating the pipe while spraying the insulative material.

70. (New) The method according to claim 16, further comprising measuring a position of the spray gun in relation to the interior surface of the pipe while spraying the insulative material.

71. (New) The method according to claim 70, further comprising controlling the position of the spray gun responsive to measuring the position.

72. (New) The method according to claim 16, further comprising measuring the thickness of the insulative layer while spraying the insulative material.

73. (New) The method according to claim 23, further comprising rotating the pipe while spraying the conductive material.

74. (New) The method according to claim 23, further comprising measuring the position of the spray gun in relation to the interior surface of the pipe while spraying the conductive material.

75. (New) The method according to claim 23, further comprising measuring the thickness of the conductive material while spraying the conductive material.

76. (New) The method according to claim 29, wherein flushing the interior of the pipe with cooling air comprises introducing atomized water into the interior of the pipe, the atomized water carried by the cooling air.

77. (New) The method according to claim 23, further comprising spraying an insulative layer over the at least one conductive trace.

78. (New) The method according to claim 14, wherein spraying a conductive material toward an interior surface of the pipe to form at least one conductive trace comprises spraying a conductive material toward an interior surface of the pipe to form a plurality of conductive traces.

79. (New) The method according to claim 78, wherein spraying a conductive material toward an interior surface of the pipe to form a plurality of conductive traces comprises forming each of the plurality of conductive traces upon the insulative layer.

80. (New) The method according to claim 78, wherein:
forming an insulative layer comprises forming a plurality of separate insulative layer segments;
and
spraying a conductive material toward an interior surface of the pipe to form a plurality of
conductive traces comprises forming a respective one of the plurality of conductive traces
onto each of the plurality of separate insulative layer segments.